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APPLICATION NO	FILING DATE	FIRST NAME INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
09 603,025	06 26 2000	Laurence Bigio	LD 11411 GE-C 2 0489	3395

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Timothy E Nauman Esq
Fay Sharpe Fagan Minnich & Meke LLP
1100 Superior Avenue 7th Floor
Cleveland, OH 44114-2516

EXAMINER

ROY, SIKHA

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 03 21 2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/603,025

Examiner

Sikha Roy

Applicant(s)

BIGIO ET AL.

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

Attachments

- 1) ☐ Notice of References Cited (PTO 892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO 848)
- 3) ☐ Information Sheet on Substantive Examination (PTO 1117) (Page 1, 2)
- 4) ☐ Interview Summary (PTO 413) (Page 1, 2)
- 5) ☐ Notice of Informal Patent Application (PTO 152)
- 6) ☐ Other

DETAILED ACTION

The Amendment, filed on January 6, 2003 has been entered and is acknowledged by the Examiner.

Cancellation of claims 6,7,15,16 and new claims 21-24 have been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 10,11 and 20 rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,660,462 to Bockley et al.

Regarding claim 1, Bockley et al. disclose (column 8 lines 44-65 Fig. 6) a light source comprising a double-ended lamp envelope 204 made of a light transmissive material, wherein the envelope has an ellipsoidal portion disposed centrally between tubular portions disposed on opposite ends of the ellipsoidal portion, a filament 202 centrally disposed within the envelope, an infrared reflective filter coating 220 on outside surface of the envelope for transmitting visible radiation and reflecting infrared radiation back to the filament and a totally reflecting coating 222 over a portion of the ellipsoidal portion for reflecting both visible light radiation and infrared radiation back to the

Art Unit: 2879

Regarding claims 2 and 3 Bockley et al. disclose a pair of lead wires connected to opposite ends of the filament.

Regarding claim 10 Bockley et al. disclose all the limitations which are same as claim 1 and the specularly reflective coating made of aluminum, silver (column 5 lines 55-60) directing the radiation back to the filament.

Regarding claim 11 Bockley et al. disclose the totally reflecting coating (70,72 in Fig.3) provided on both end regions of the ellipsoidal portion of the envelope.

Regarding claim 20 Bockley et al. disclose (Fig. 1) the light source mounted in a reflector 14 receiving visible light from the light source, the totally reflecting coating matching useful reflecting areas of the reflector.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,660,462 to Bockley et al. in view of U.S. Patent 5,506,471 to Kosmatka et al.

Claim 5 and 14 differ from Bockley et al. in that Bockley et al. do not exemplify the interference filter coating having alternate layers of respective high and low refractive indices.

Kosmatka et al. In analogous art of infrared light source disclose (column 3 lines 30-36 Fig. 1) the interference filter coating 44 comprising of multiple layers of refractory metal oxides having alternating high and low indices of refraction. It is noted the coating reflects infrared portion of the emitted radiation towards the filament to raise the temperature and improve the overall operating efficiency of the lamp.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include the interference filter coating in the lamp of Bockley et al. alternate layers of high and low refractive indices as taught by Kosmatka et al. for reflecting infrared portion of the emitted radiation towards the filament to raise the temperature and improving the overall operating efficiency of the lamp.

Claims 8,9,12, 17,18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,660,462 to Bockley et al. in view of U.S. Patent 5,017,839 to Arlt et al.

Regarding claims 8, 9, 17 and 18 Bockley et al. do not disclose the totally reflecting coating disposed on both ends of the envelope subtending an angle from 22° to 45° from an axis aligned with the filament.

Regarding claims 8 and 9, Arlt et al. in the same field of endeavor disclose

discharge vessel and the inner edge of the coating forms an angle between 50° and 55° and hence the edge of the coating subtends an angle preferably between 40° ($90^\circ - 50^\circ$) and 35° ($90^\circ - 55^\circ$) from the axis aligned with the filament. Arlt et al. further disclose the coating thus quite well covers the space behind the electrodes and so all the radiation emitting in this area can be reflected back to the filament enhancing the efficiency of the lamp.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have the totally reflecting coating of Bockley et al. disposed such that it subtends an angle between 40° and 35° as taught by Arlt et al. This specific position of the coating provides benefit of well covering the area behind the filament and reflecting all the radiation emitted in this area back to the filament and thus enhancing the efficiency of the lamp.

Claims 17 and 18 essentially recite the same limitations as of claims 8 and 9 respectively and hence are rejected for the same reason.

Regarding claims 12 and 19 Bockley and Arlt et al. disclose the totally reflecting coating disposed on end regions of the ellipsoisal portion of the envelope and tubular portions extending from the opposite ends of the ellipsoidal portion.

Claims 4 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,660,462 to Bockley et al. in view of U.S. Patent 4,375,605 to Fontana et al.

Fontana et al. in analogous art of ellipsoidal envelope of an incandescent lamp disclose(column 6 lines 11-15) the filament mounted along the major axis and its length fitting within the two foci of the major axis of the envelope. Fontana et al. further disclose (column 5 lines 28-40) that because of this design, a substantial portion of the reflected radiation reaches and hence increases the temperature of the filament producing a greater lumen output.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the length of the filament of Bockley et al. so that it fits between the first and second optical foci of the ellipsoidal portion of the envelope as suggested by Fontana et al. for reflecting a substantial portion of the radiation on the filament and increasing its temperature and thus producing a greater lumen output.

Claims 13, 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,660,462 to Bockley et al. and U.S. Patent 5,017,839 to Arlt et al. in view of U.S. Patent 4,375,605 to Fontana et al.

Claim 13 recites the same limitation of claim 4 and hence is rejected for the same reason. The reason for combining the teachings of Bockley and Arlt et al. holds.

Claims 22 and 24 essentially recite the same limitation as of claim 9 and hence are rejected for the same reason (see rejection of claim 9).

Claim 23 recites the same limitation as of claim 12 and hence is rejected for the

Response to Arguments

Applicant's arguments with respect to claims 1 and 10 have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (703) 308-2826. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Sikha Roy
Patent Examiner
Art Unit 2879

